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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,273	02/27/2007	Reinhard Gabriel	WW058USU	8868

27623 7590 10/13/2010  
OHLANDT, GREELEY, RUGGIERO & PERLE, LLP  
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STAMFORD, CT 06901

EXAMINER
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VERDIER, CHRISTOPHER M

ART UNIT	PAPER NUMBER
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3745

MAIL DATE	DELIVERY MODE
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10/13/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/579,273	<b>Applicant(s)</b> GABRIEL, REINHARD	
	<b>Examiner</b> Christopher Verdier	<b>Art Unit</b> 3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 12-31 is/are pending in the application.
- 4a) Of the above claim(s) 31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>5-13-06</u> . | 6) <input type="checkbox"/> Other: _____  |

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Receipt and entry of Applicant's Preliminary Amendment dated May 13, 2006 is acknowledged.

***Election/Restrictions***

Applicant's election with traverse of invention I in the reply filed on July 26, 2010 is acknowledged. The traversal is on the ground(s) that claims 12-31 relate to a single general inventive concept as required by PCT Rule 13.1 and, as such, search and examination of the entire application can be made without serious burden. This is not found persuasive because as set forth previously, Group II, claim 31, is drawn to a method of producing a bearing on a jet propulsion engine of a watercraft, having a plurality of bearing segments, by positively locking a first portion of the plurality of bearing segments to a rotor; applying adhesive between the first portion of the plurality of bearing segments and the rotor; grinding at least two bearing surfaces that are substantially perpendicular to each other of the first portion of the plurality of bearing segments; positively locking a second portion of the plurality of bearing segments to a housing; applying adhesive between the second portion of the plurality of bearing segments and the housing; and grinding at least two bearing surfaces that are substantially perpendicular to each other of the second portion of the plurality of bearing segments. The groups of inventions listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: A jet propulsion engine having a rotor and a housing, with the rotor having an inner portion with blades, with the housing receiving the rotor, and the rotor being rotationally connected to the housing by a bearing, is known in the art. See for example, U.S. Patents

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5,484,266 and 2,153,055. Bearings comprising carbide that is resistant to sea-water are also known in the art. See for example, U.S. Patent 4,934,837. Segmented bearings are conventional in the art. Therefore, the claims of group I do not avoid the prior art and inventions I and II are not so linked as to form a single general inventive concept, since the claims in group I do not recite the corresponding special technical features set forth above of group II that occur in the method of producing the bearing. Additional examination of Group II would impose a serious burden, because the invention of Group II has acquired a separate status in the art in view of its different classification, and the inventions require a different field of search (e.g. searching different classes/subclasses or electronic resources, and employing different search strategies or search queries.)

Claim 31 is withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim.

The requirement is still deemed proper and is therefore made FINAL.

### ***Information Disclosure Statement***

The information disclosure statement filed May 13, 2006 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language (German Patent 295 03 198.0). The information referred to in the German Patent has not been considered.

The information disclosure statement filed May 13, 2006 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. There is not a copy of German Patent 1531745 and the information referred to in the German Patent has not been considered.

### *Specification*

The abstract of the disclosure is objected to because it contains the phrase “The invention relates to” (line 1), which is implied and should not be used. Correction is required. See MPEP § 608.01(b).

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

Claim 21, which recites that the bearing has a diameter equal to or larger than 200 mm, has no antecedent basis in the specification.

Claim 22, which recites that the bearing has a diameter of between 200 mm to 2500 mm, has no antecedent basis in the specification.

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It is suggested that the specification be amended to state these features, in order to overcome the objection to the specification as failing to provide proper antecedent basis for the claimed subject matter.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12-14, 16, and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gabriel 5,181,868 in view of Fujita 2003/0123770. Gabriel (figure 1, 7-8, and 14) discloses a jet propulsion engine for a watercraft substantially as claimed, comprising: a rotor 17 and a housing 12, the rotor having an inner portion with blades, the housing receiving the rotor, the rotor being rotationally connected to the housing by ring bearings 13. The bearing is a plurality of segments. The housing encloses the rotor in a tube-like manner defining a hollow space between an outside of the rotor and an inside of the housing, and an electric ring motor 23 is positioned in the hollow space.

However, Gabriel does not disclose that the bearing comprises carbide that is resistant to sea-water (claim 12), does not disclose that the bearing comprises silicon carbide (claim 13), does not disclose that the bearing consists exclusively of carbide (claim 14), does not disclose

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that the bearing has a diameter equal to or larger than 200 mm (claim 21), and does not disclose that bearing has a diameter of between 200 mm to 2500 mm (claim 22).

Fujita teaches that a bearing 1-3 may be made of silicon carbide, and applied to roller bearings, for the purpose of improving seizure resistance and wear resistance.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to form the bearing of Gabriel such that it comprises carbide that is resistant to sea-water, such that it comprises silicon carbide, and such that the bearing consists exclusively of carbide, as taught by Fujita, for the purpose of improving seizure resistance and wear resistance. The recitations that the bearing has a diameter equal to or larger than 200 mm (claim 21), and that the bearing has a diameter of between 200 mm to 2500 mm (claim 22) are matters of engineering design choice. It would have been further obvious at the time the invention was made to a person having ordinary skill in the art to form the modified bearing of Gabriel such that the bearing has a diameter equal to or larger than 200 mm, and such that the bearing has a diameter of between 200 mm to 2500 mm, for the purpose of accommodating different sized rotors and jet propulsion engines.

Claims 12-15 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber 3,361,107 in view of Dipl.-Ing. 6,402,462. Weber discloses a jet propulsion engine for a watercraft substantially as claimed, comprising: a rotor 20 and a housing 24/28, the rotor having

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an inner portion with blades 20, the housing receiving the rotor, the rotor being rotationally connected to the housing by slide bearings 34, 36.

However, Weber does not disclose that the bearing comprises carbide that is resistant to sea-water (claim 12), does not disclose that the bearing comprises silicon carbide (claim 13), does not disclose that the bearing consists exclusively of carbide (claim 14), does not disclose that the bearing has a diameter equal to or larger than 200 mm (claim 21), and does not disclose that bearing has a diameter of between 200 mm to 2500 mm (claim 22).

Dipl.-Ing. teaches that a slide bearing 28 may be made of silicon carbide, as a material that one skilled in the art would utilize in a pump environment.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to form the bearing of Weber such that it comprises carbide that is resistant to sea-water, such that it comprises silicon carbide, and such that the bearing consists exclusively of carbide, as taught by Dipl.-Ing., as a material that one skilled in the art would utilize in a pump environment. The recitations that the bearing has a diameter equal to or larger than 200 mm (claim 21), and that the bearing has a diameter of between 200 mm to 2500 mm (claim 22) are matters of engineering design choice. It would have been further obvious at the time the invention was made to a person having ordinary skill in the art to form the modified bearing of Gabriel such that the bearing has a diameter equal to or larger than 200 mm, and such



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that the bearing has a diameter of between 200 mm to 2500 mm, for the purpose of accommodating different sized rotors and jet propulsion engines.

Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber 3,361,107 and Dipl.-Ing. 6,402,462 as applied to claim 12 above, and further in view of Orndorff, Jr. 5,372,430. The modified jet propulsion engine of Dipl.-Ing. shows all of the claimed subject matter except for the bearing being a plurality of segments (claim 16), except for a portion of the plurality of segments being spaced on one side of the rotor and another portion of the plurality of segments being spaced on another side of the housing so that a pumping effect is achieved and produces a defined flow (claim 17), and except for the plurality of segments being connected in a positive-locking manner to the housing or the rotor (claim 18).

Orndorff, Jr. shows a bearing assembly comprising a plurality of segments 18, with a portion of the plurality of segments being spaced on one side of a rotor 23 and another portion of the plurality of segments being spaced on another side of a housing 15 so that a pumping effect is achieved and produces a defined flow, with the plurality of segments being connected in a positive-locking manner to the housing, for the purpose of providing a water lubricated bearing.

It would have been further obvious at the time the invention was made to a person having ordinary skill in the art to form the modified bearing of Weber such that the bearing is a plurality of segments, the plurality of segments are spaced on one side of the rotor and another portion of the plurality of segments are spaced on another side of the housing so that a pumping effect is

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achieved and produces a defined flow, and such that the plurality of segments are connected in a positive-locking manner to the housing, as taught by Orndorff, Jr., for the purpose of providing a water lubricated bearing. The recitation in claim 19 of the plurality of segments being connected to the housing via adhesive is a product-by-process claim. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product-by-process claim does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Claims 23-25 and 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gabriel 5,181,868 in view of Fujita 2003/0123770 and Orndorff, Jr. 5,372,430. Gabriel (figure 1, 7-8, and 14) discloses a jet propulsion engine for a watercraft substantially as claimed, comprising: a rotor 17 and a housing 12, the rotor having an inner portion with blades, the housing receiving the rotor, the rotor being rotationally connected to the housing by ring bearings 13. The bearing is a plurality of segments. The housing encloses the rotor in a tube-like manner defining a hollow space between an outside of the rotor and an inside of the housing, and an electric ring motor 23 is positioned in the hollow space.

However, Gabriel does not disclose that the bearing comprises carbide that is resistant to sea-water (claim 23), does not disclose that the plurality of segments of the bearing are spaced on the housing and produce a pumping effect via centrifugal force (claim 23), does not disclose that

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the bearing comprises silicon carbide (claim 24), does not disclose that the bearing consists exclusively of carbide (claim 25), does not disclose a portion of the plurality of segments being spaced on one side of the rotor and another portion of the plurality of segments being spaced on another side of the housing so that the pumping effect achieves a defined flow (claim 27), and does not disclose that the plurality of segments are connected in a positive-locking manner to the housing or the rotor (claim 28).

Fujita teaches that a bearing 1-3 may be made of silicon carbide, and applied to roller bearings, for the purpose of improving seizure resistance and wear resistance.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to form the bearing of Gabriel such that it comprises carbide that is resistant to sea-water, such that it comprises silicon carbide, and such that the bearing consists exclusively of carbide, as taught by Fujita, for the purpose of improving seizure resistance and wear resistance.

Orndorff, Jr. shows a bearing assembly comprising a plurality of segments 18, with a portion of the plurality of segments being spaced on one side of a rotor 23 and another portion of the plurality of segments being spaced on another side of a housing 15 so that a pumping effect is achieved and produces a defined flow, with the plurality of segments being connected in a positive-locking manner to the housing, for the purpose of providing a water lubricated bearing.

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It would have been further obvious at the time the invention was made to a person having ordinary skill in the art to form the modified bearing of Gabriel such that the plurality of segments are spaced on one side of the rotor and another portion of the plurality of segments are spaced on another side of the housing so that a pumping effect is achieved and produces a defined flow, and such that the plurality of segments are connected in a positive-locking manner to the housing, as taught by Orndorff, Jr., for the purpose of providing a water lubricated bearing. The recitation in claim 29 of the plurality of segments being connected to the housing via adhesive is a product-by-process claim. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product-by-process claim does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Claims 23-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber 3,361,107 in view of Dipl.-Ing. 6,402,462 and Orndorff, Jr. 5,372,430. Weber discloses a jet propulsion engine for a watercraft substantially as claimed, comprising: a rotor 20 and a housing 24/28, the rotor having an inner portion with blades 20, the housing receiving the rotor, the rotor being rotationally connected to the housing by slide bearings 34, 36.

However, Weber does not disclose that the bearing comprises carbide that is resistant to sea-water (claim 23), does not disclose that the bearing is a plurality of segments and the

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plurality of segments of the bearing are spaced on the housing and produce a pumping effect via centrifugal force (claim 23), does not disclose that the bearing comprises silicon carbide (claim 24), does not disclose that the bearing consists exclusively of carbide (claim 25), does not disclose a portion of the plurality of segments being spaced on one side of the rotor and another portion of the plurality of segments being spaced on another side of the housing so that the pumping effect achieves a defined flow (claim 27), and does not disclose that the plurality of segments are connected in a positive-locking manner to the housing or the rotor (claim 28).

Dipl.-Ing. teaches that a slide bearing 28 may be made of silicon carbide, as a material that one skilled in the art would utilize in a pump environment.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to form the bearing of Weber such that it comprises carbide that is resistant to sea-water, such that it comprises silicon carbide, and such that the bearing consists exclusively of carbide, as taught by Dipl.-Ing., as a material that one skilled in the art would utilize in a pump environment.

Orndorff, Jr. shows a bearing assembly comprising a plurality of segments 18, with a portion of the plurality of segments being spaced on one side of a rotor 23 and another portion of the plurality of segments being spaced on another side of a housing 15 so that a pumping effect is achieved and produces a defined flow, with the plurality of segments being connected in a positive-locking manner to the housing, for the purpose of providing a water lubricated bearing.

It would have been further obvious at the time the invention was made to a person having ordinary skill in the art to form the modified bearing of Weber such that it includes a plurality of segments, the plurality of segments are spaced on one side of the rotor and another portion of the plurality of segments are spaced on another side of the housing so that a pumping effect is achieved and produces a defined flow, and such that the plurality of segments are connected in a positive-locking manner to the housing, as taught by Orndorff, Jr., for the purpose of providing a water lubricated bearing. The recitation in claim 29 of the plurality of segments being connected to the housing via adhesive is a product-by-process claim. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product-by-process claim does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

### ***Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shima and McLaren are cited to show propellers with inwardly extending blades supported by housings via bearings.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Verdier whose telephone number is (571) 272-4824. The examiner can normally be reached on Monday-Friday from 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward K. Look can be reached on (571) 272-4820. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christopher Verdier/  
Primary Examiner, Art Unit 3745

Christopher Verdier  
Primary Examiner  
Art Unit 3745